

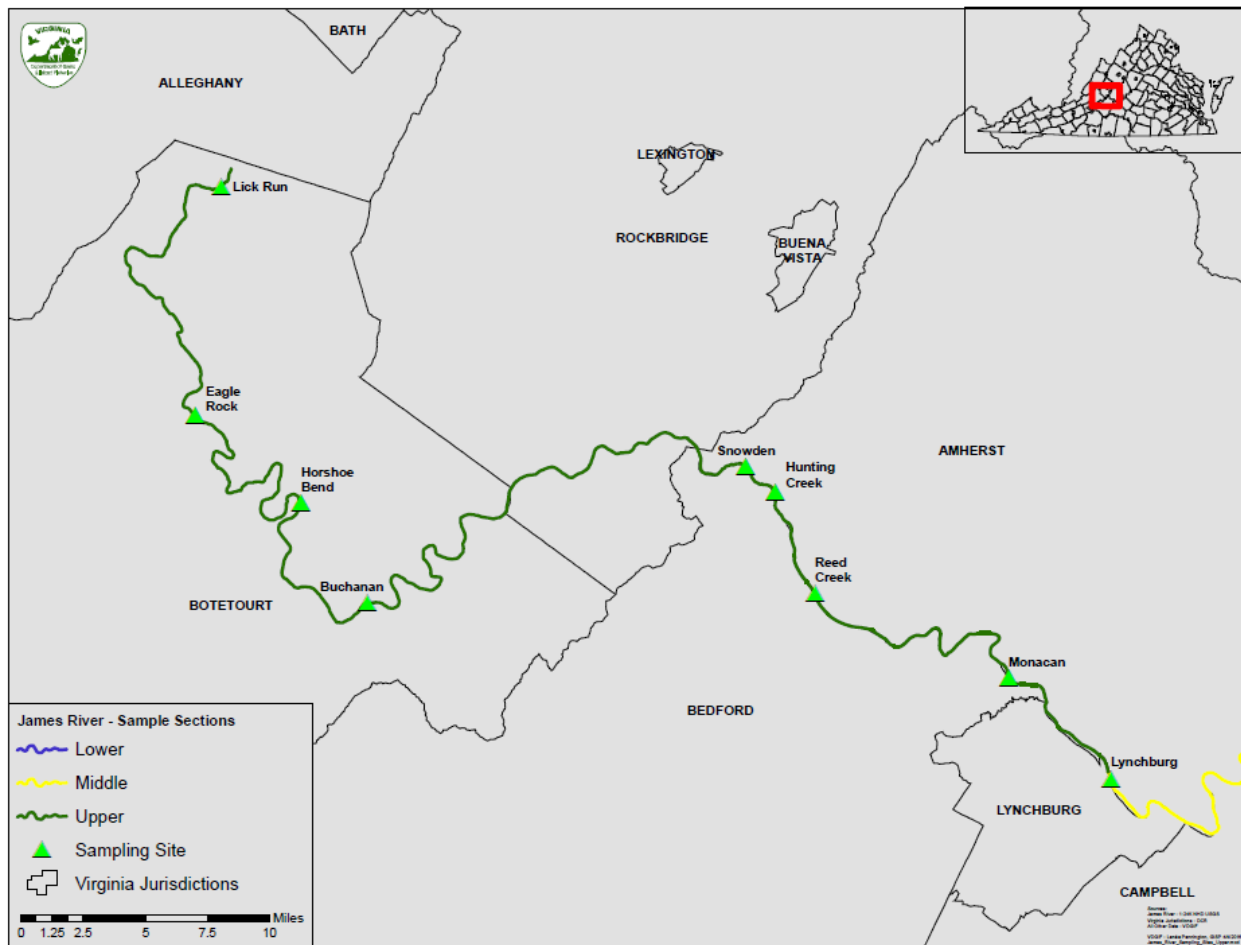
# The Non-Tidal James River 2018



*A 50-inch Muskie collected on the upper James River in fall 2017.*

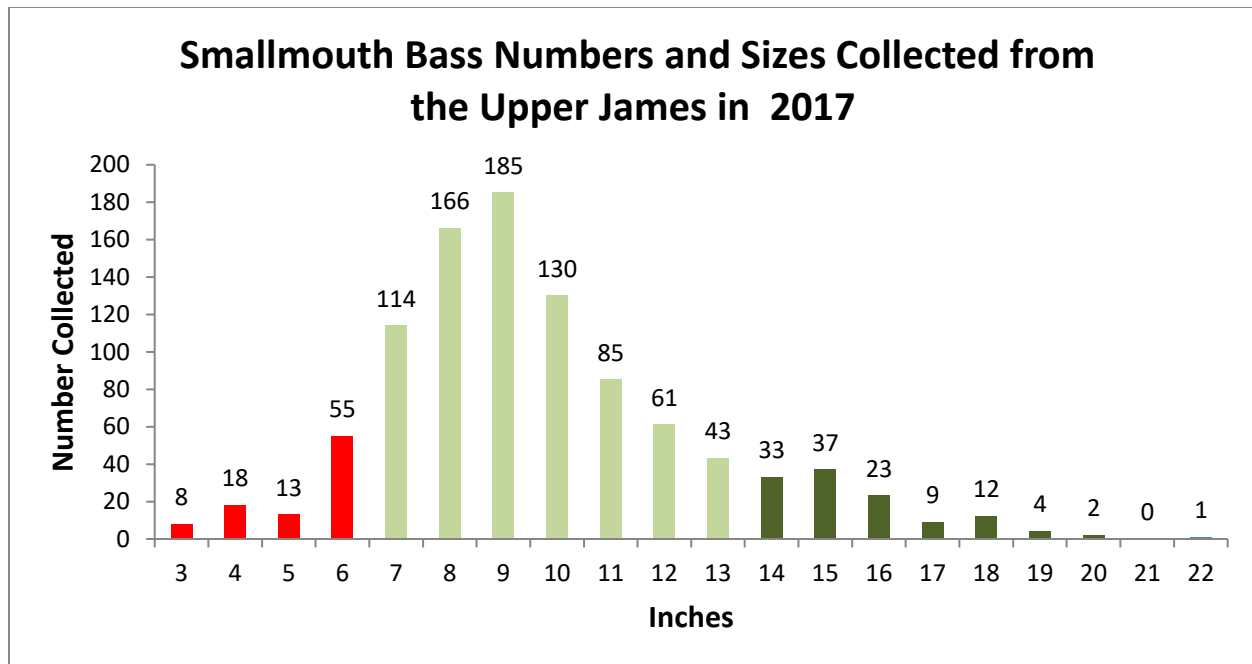
## The Upper James River

Beginning at the confluence of the Jackson and Cowpasture Rivers near Iron Gate, the upper James River flows approximately 90 miles downstream to the City of Lynchburg. Smallmouth bass, muskie, catfish, rock bass, and other sunfish species provide diverse fishing opportunities to anglers on the upper James River. To evaluate the fish community, the Virginia Department of Game and Inland Fisheries collected fish using an electrofishing boat at nine sites from Iron Gate to Monacan Park (Figure 1). For a quick fish regulation guide for common species occurring in the non-tidal James River see Table 1 at the end of this report.



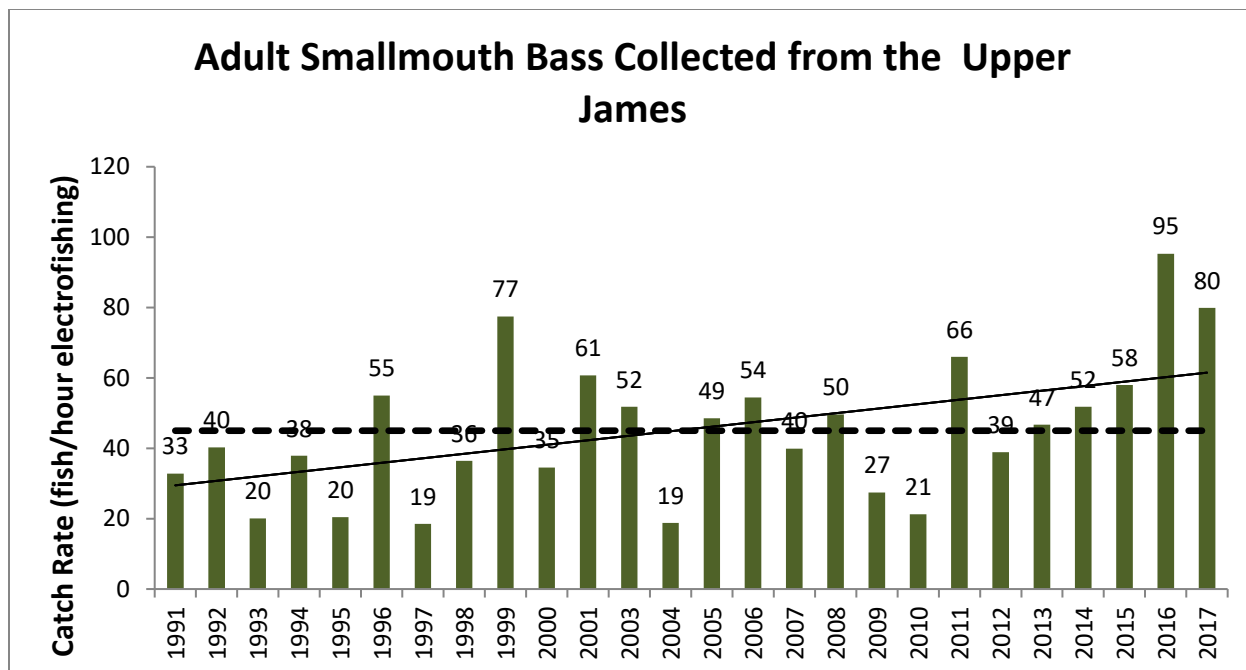
*Figure 1. Upper James River sampling locations.*

Smallmouth bass, the most popular sport fish anglers seek, were the most abundant species collected in fall sampling. In 2017, 999 smallmouth bass, ranging from 3 to 22 inches, were collected (Figure 2). Juvenile smallmouth bass (individuals less than 7 inches) made up 10% of all smallmouth bass collected. The majority of adult smallmouth bass collected were between 7 and 12 inches. Approximately 12% of adult smallmouth bass collected were between 14 and 22 inches and therefore protected under the current slot limit regulations.



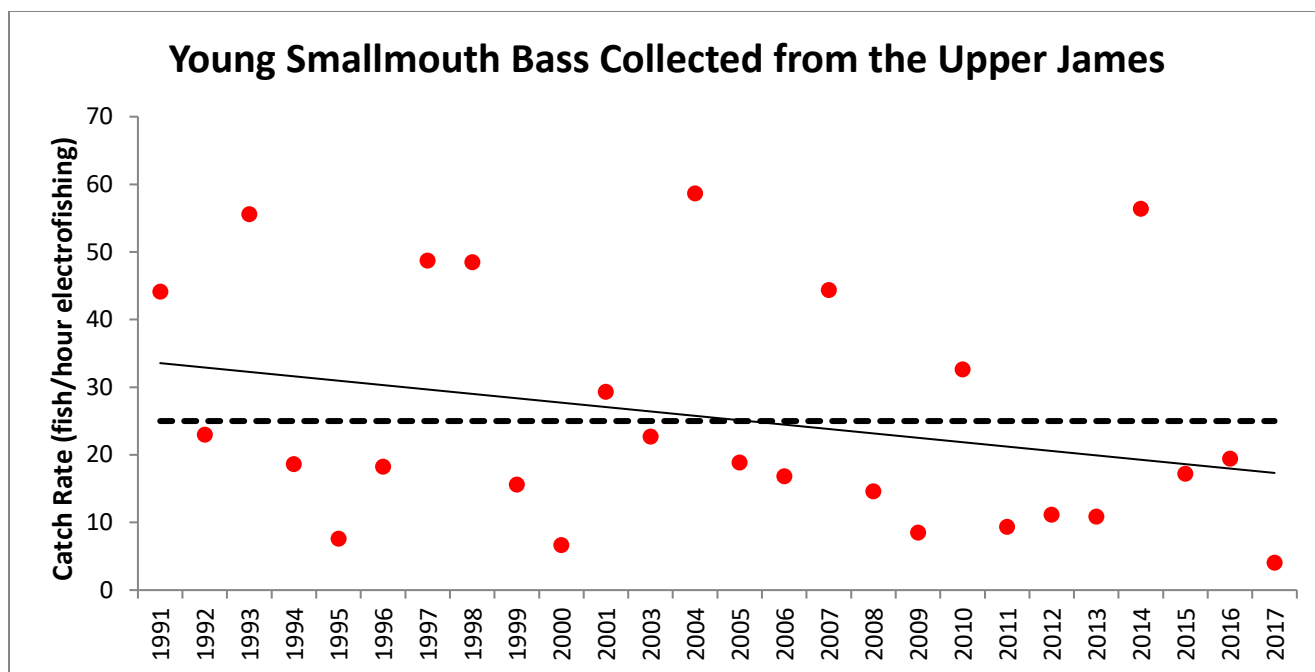
*Figure 2. Smallmouth bass collected from Lick Run to Lynchburg in fall 2017. Juvenile smallmouth bass (less than 7 inches) are represented with red bars, while adult smallmouth bass are shown with green bars. Current regulations protect smallmouth bass between 14 and 22 inches (dark green bars).*

After collecting fish with electrofishing equipment, catch rates are calculated in terms of fish collected per hour. Catch rates of adult smallmouth bass in 2017 averaged 80 per hour (Figure 3). This is greater than the long-term average catch rate of 44 per hour and the second highest catch rate recorded in the past 25 years.



*Figure 3. Annual catch of adult smallmouth bass from 1991-2017 in the upper James River. The dashed line is the long-term average catch rate and the solid line represents the annual trend in adult smallmouth bass catch rates.*

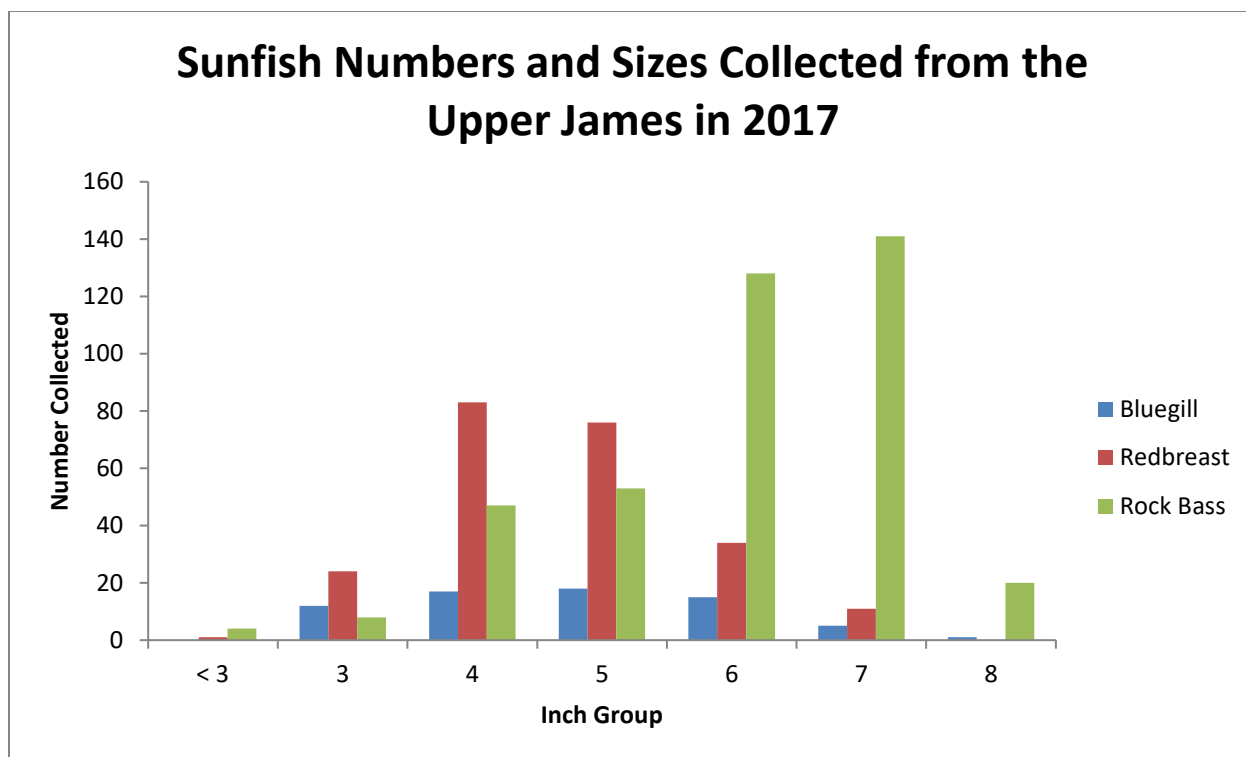
The fluctuation in catch rates over time is likely due to young-of-the-year (YOY) survival in previous years. In the upper James River smallmouth bass less than 6 inches in the fall are considered YOY; meaning those individuals were born in the spring of that year. YOY survival appears to be best in years with moderate June river flows and poor with high or low flows during June. YOY catch rates vary from 4 to 59 fish per hour with an average of 27 fish per hour (Figure 4). In 2017, YOY catch rates were below the long-term average with only 4 fish per hour. Although YOY catch rates were low in 2017, the above average YOY survival in 2014 led to the high catch rates of adults in 2017 and will help sustain smallmouth bass abundance into the future.



*Figure 4. Annual catch rates of smallmouth bass YOY. The dashed black line is the long-term average catch rate and the solid black line represents the annual trend in catch rates of smallmouth bass YOY from the upper James River.*

Smallmouth bass anglers may use a variety of soft baits including worms, tubes, and flukes; as well as hard baits such as crank baits, jigs, and spinner baits. While baits and tactics may change with time of year and river flow conditions, angler seeking smallmouth bass should focus on deeper riffle areas, beginnings and ends of pools, and structures such as large boulders or fallen trees.

The upper James River is also home to a variety of sunfish species including rock bass, redbreast sunfish, and bluegill. In 2017 a total of 723 sunfish were collected. Rock bass were the most abundant sunfish collected and ranged from 2 to 8 inches in length (Figure 5). Redbreast sunfish and bluegill were also commonly collected and ranged from 2 to 8 inches in length. Although often overlooked, angling for sunfish can provide great entertainment especially using light tackle or fly-fishing. Angler seeking sunfish should focus on fishing near banks, aquatic vegetation, and fallen trees. Spinners, small grubs, crickets, and worms all make excellent baits for catching sunfish.



*Figure 5. Number and sizes of rock bass, redbreast sunfish, and bluegill collected in fall 2017 in the upper James River.*

The largest and most challenging fish to catch in the upper James is the muskie. Muskies were collected at almost all sampling sites and were most abundant in pool areas. Thirty-nine muskies, ranging from 24 to 50 inches in length were collected during fall community sampling in 2017 (Figure 6). DGIF conducted more extensive muskie sampling in January and February 2017 to continue monitoring the population. In 2017, biologists tagged 261 muskies in the upper James to estimate angler catch rates and annual harvest. There is currently a \$20 reward for the return of these tags with the necessary catch information (see poster below). Biologists continued tagging muskies in 2018, so if you catch a muskie, be sure to check for the yellow tags (located near the dorsal fin) and mail the tags to the VDGIF Forest regional office (see poster below). Muskies can be very picky so anglers often use a variety of baits throughout the year including large crankbaits, spinnerbaits, tubes, and swimbaits.

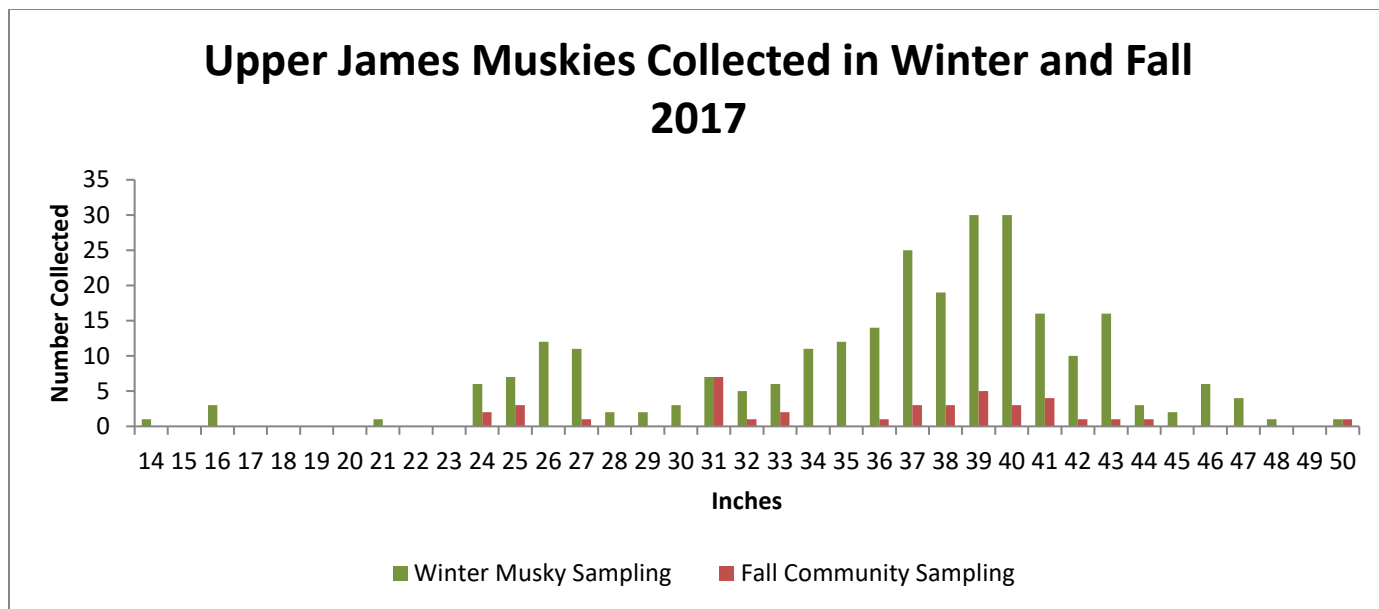


Figure 6. Number and sizes of Muskie collected in winter and fall 2017 in the upper James River.



# \$20 REWARD

## For the return of tags and catch information

VA Dept. of Game and Inland Fisheries biologists have tagged Muskies to study angler catch rates and annual harvest in the James River. The yellow tags will be located near the fish's dorsal fin. Anglers can remove the tags by firmly pulling the monofilament attachment from the fish's body. The fish can then be released or harvested (if legal size).



Some fish have two tags. Both tags are eligible for the \$20 reward. Anglers must submit each tag with catch information to receive a reward.

### Catch information required to receive reward:

Date and general location of catch:

Fish length:

Was the fish harvested or released?

Were you fishing for Muskies?

Tags should be returned to the VDGIF Forest regional office:  
1132 Thomas Jefferson Road Forest, VA 24551

Attn: Muskie Tagging Study



### *James River Muskie Reward Poster*

For more information on the upper James River please contact:

George Palmer  
District Fisheries Biologist  
[george.palmer@dgif.virginia.gov](mailto:george.palmer@dgif.virginia.gov)  
434-525-7522



## The Middle James River

The middle James River is considered to be the portion of river from Lynchburg, downstream approximately 130 miles, to Boshers' Dam near the city of Richmond (Figure 7). For a quick fish regulation guide for common species occurring in the non-tidal James River see Table 1 at the end of this report. The middle section of the James River has a slightly different fish community compared to the upper James. The middle James has fewer rock bass and muskie, while channel catfish and flathead catfish are more abundant.

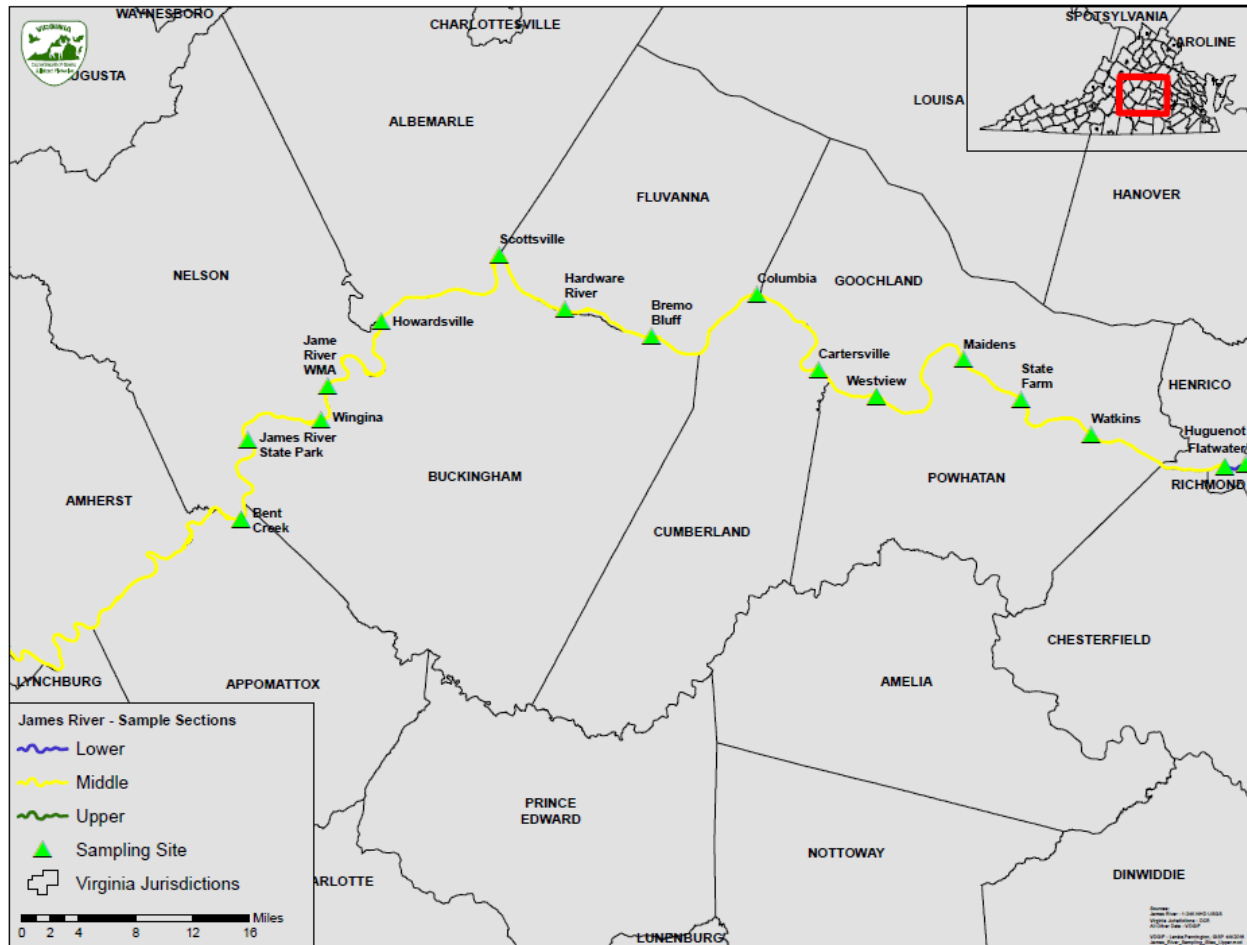
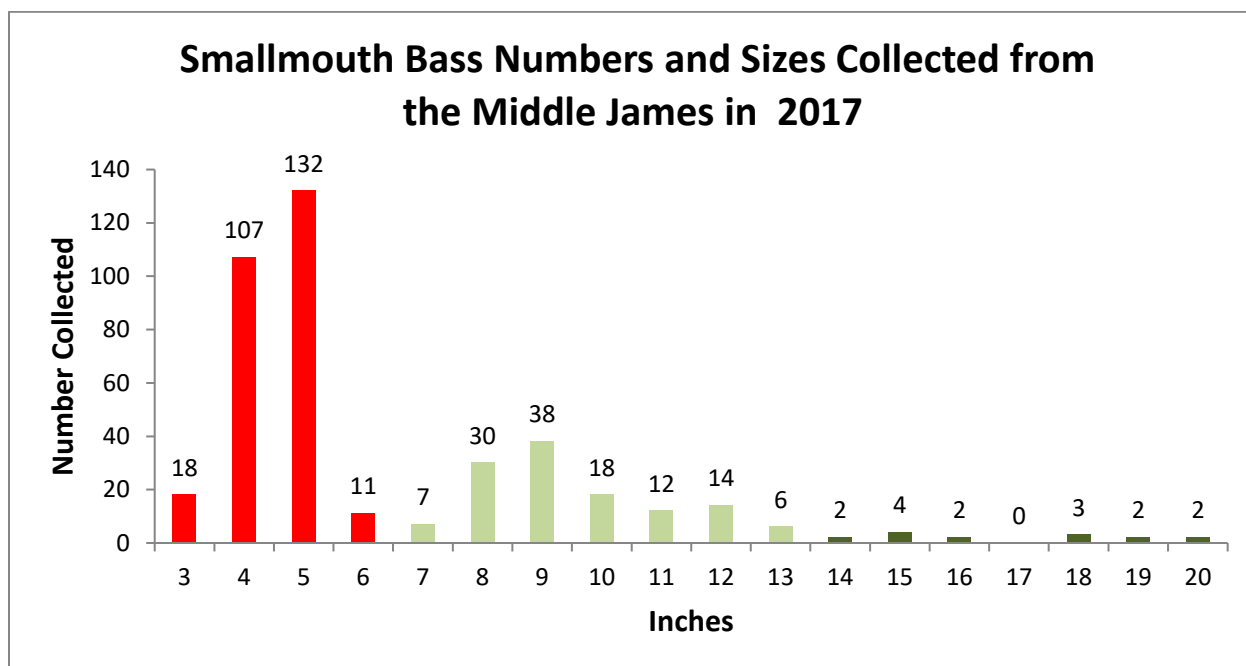


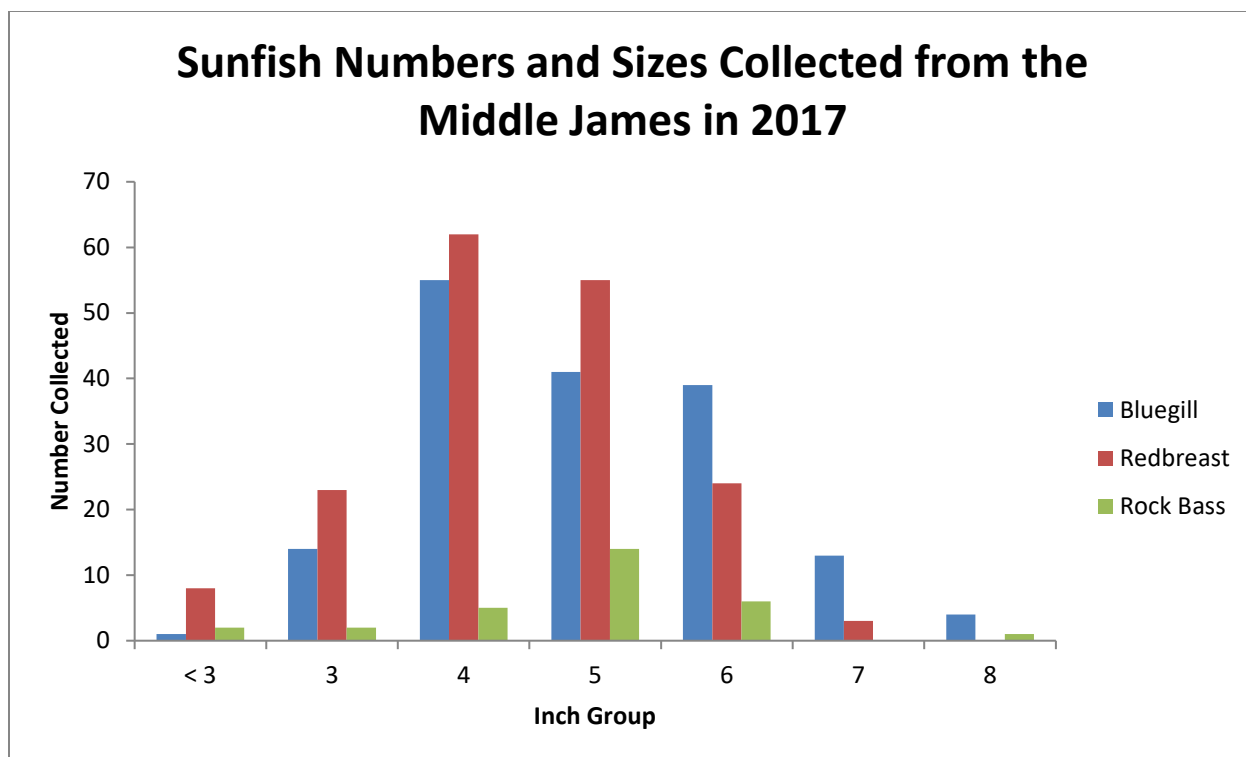
Figure 7. Middle James River sampling locations.

Smallmouth bass are still a dominant sportfish in the middle James. In fall 2017, 408 smallmouth bass were collected ranging from 3 to 20 inches (Figure 8). Juvenile smallmouth bass (individuals less than 7 inches) made up 65% of all smallmouth bass collected with the majority of adults (individuals greater than 7 inches) between 8 and 13 inches. Despite lower than normal catch rates of adult smallmouth bass the abundance of juveniles is promising for future smallmouth bass fishing in the middle James.



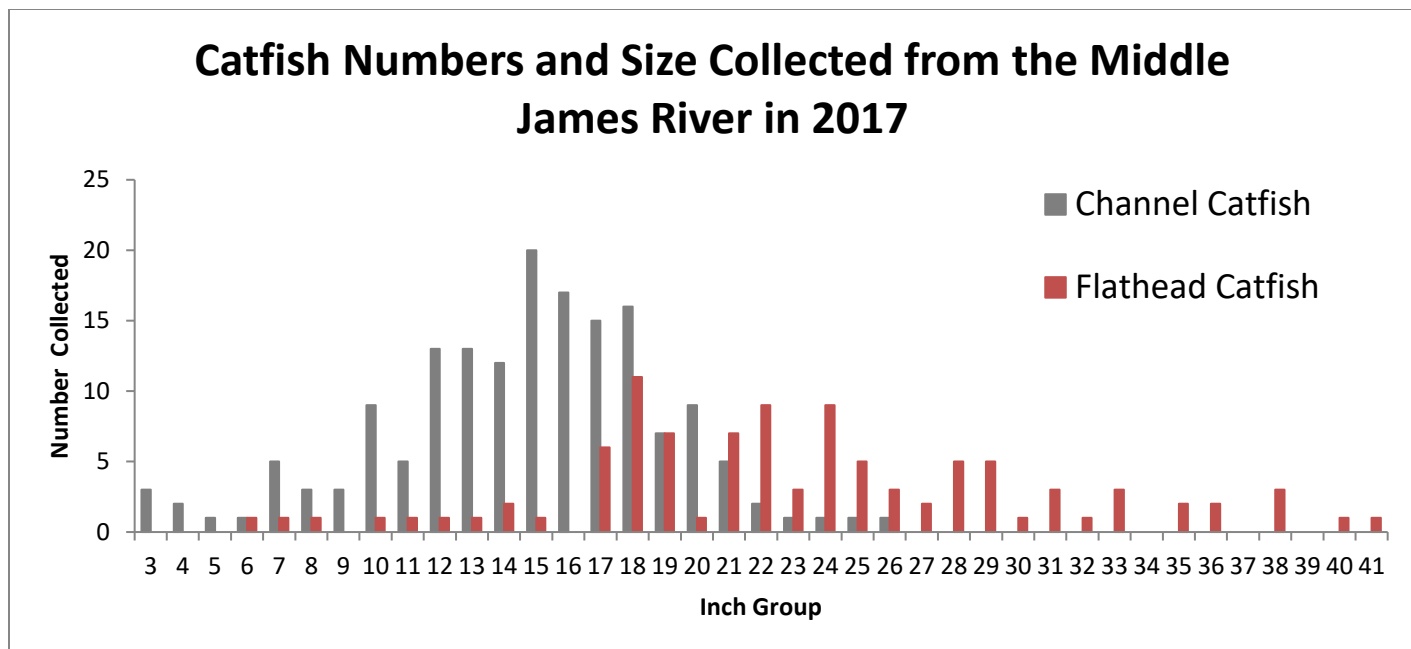
*Figure 8. Smallmouth bass collected from Lynchburg to Boshers Dam in fall 2017. Juvenile bass (less than 7 inches) are represented with red bars, while adult smallmouth bass are shown with green bars. Current regulations protect smallmouth bass between 14 and 22 inches (dark green bars).*

The middle James River also supports a variety of sunfish species including bluegill, redbreast sunfish, and rock bass. In 2017, 374 sunfish were collected with redbreast sunfish and bluegill being the most abundant. Redbreast sunfish and bluegill made up over 90% of the sunfish collected and ranged from 2 to 8 inches in length (Figure 9). Rock bass were the least abundant sunfish species collected and ranged from 2 to 8 inches in length.



*Figure 9. Numbers and sizes of redbreast sunfish, bluegill, and rock bass collected from the middle James River in fall 2017.*

The middle James River is also home to channel and flathead catfish. Two hundred sixty-five catfish were collected in fall 2017 sampling. Channel catfish were most abundant with 165 collected ranging from 3 to 26 inches in length (Figure 10). One hundred flathead catfish were collected and ranged from 6 to 41 inches in length. Flathead catfish grow larger than channel catfish, but both offer challenging and rewarding fishing opportunities. Catfish are often found in pool areas and near ledges or boulders. Anglers seeking channel catfish use a variety of baits including chicken livers, night crawlers, and stink/dough baits. Flathead catfish tend to be more of a predator than channel catfish. Therefore, live or cut baits are preferred among anglers. Please refer to the regulation booklet regarding laws pertaining to the use of live baits.



*Figure 10. Numbers and sizes of channel catfish and flathead catfish collected from the middle James River in fall 2017.*

For more information on the middle James River please contact:

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 434-525-7522

## The Fall-Line of the James (Bosher's Dam to the 14<sup>th</sup> Street Bridge)

The 9-mile stretch of the James River that flows through Richmond (known locally as the Fall-Line section) separates the non-tidal and tidal portions of the James River (Figure 11). This section contains various habitat types including rocky outcrops, large runs, deep pools, shallow riffles, and intense rapids. The Fall-Line section is renowned for kayaking, canoeing, and has traditionally supported popular sport fisheries for trophy smallmouth bass, sunfish, and catfish. For a quick fish regulation guide for common species occurring in the non-tidal James River see Table 1 at the end of this report.

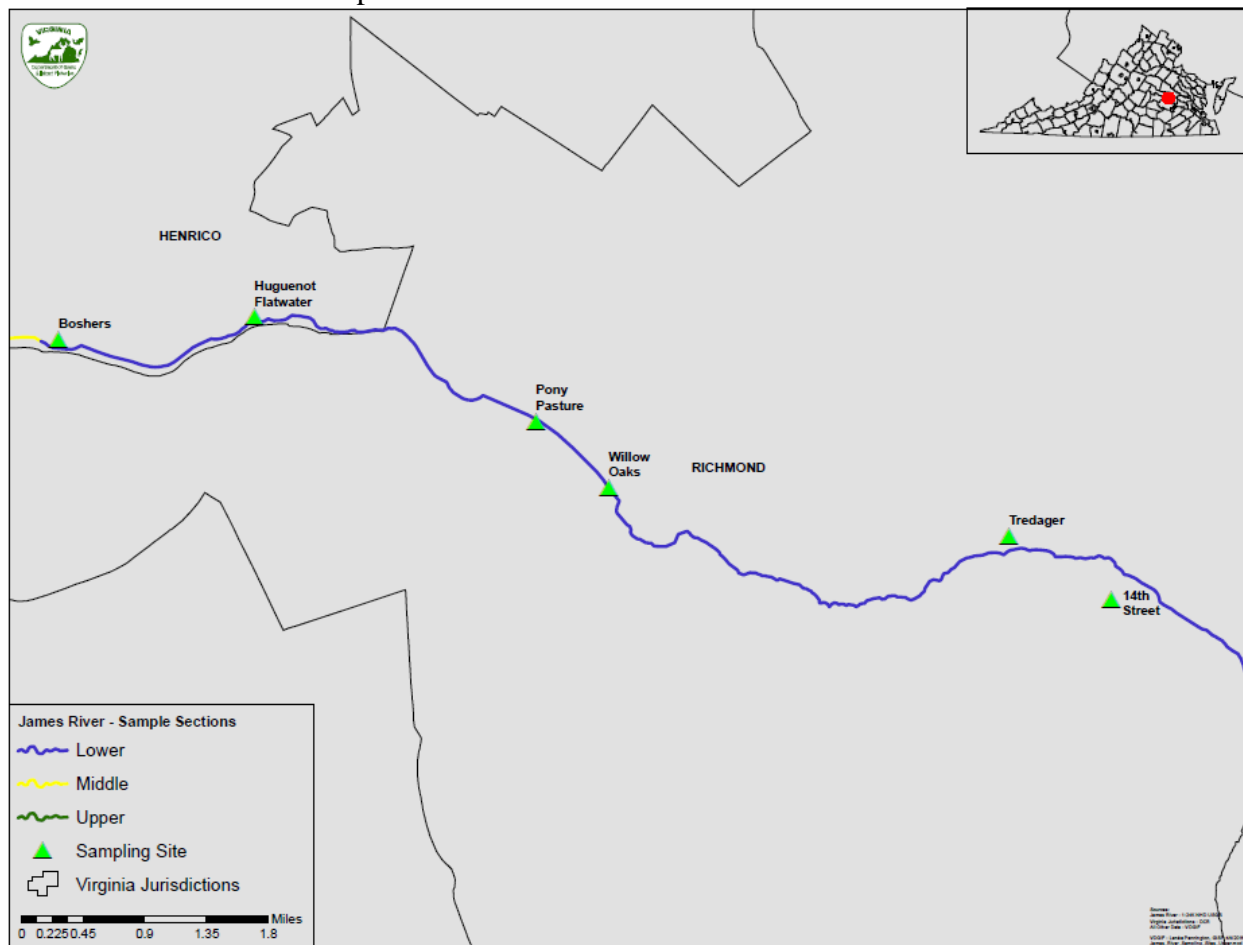


Figure 11. Fall-Line section of the James River sampling locations.

Smallmouth bass was the most abundant sportfish collected throughout the Fall-Line in 2017. Catch rates of all smallmouth bass averaged 30 per hour (Figure 12). This is greater than the long-term average catch rate of 18 per hour and the highest catch rate recorded in the past 10 years.

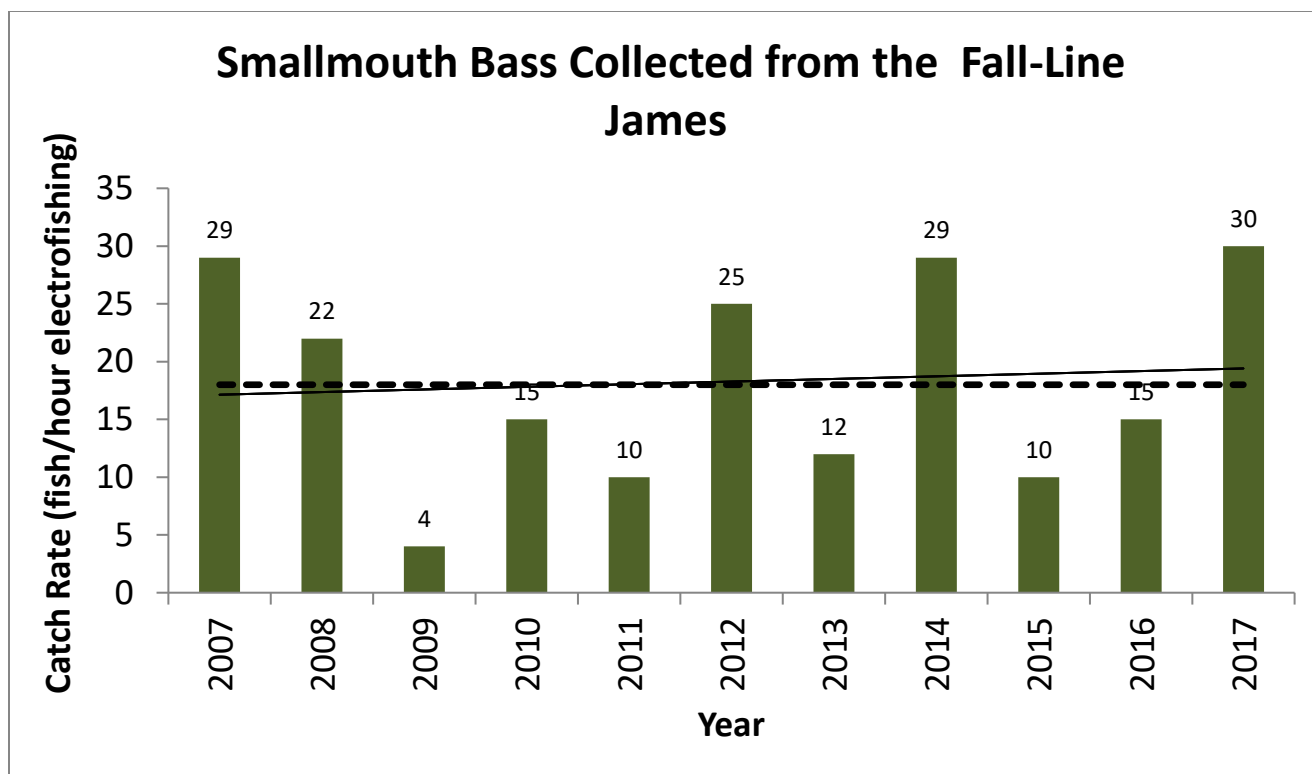
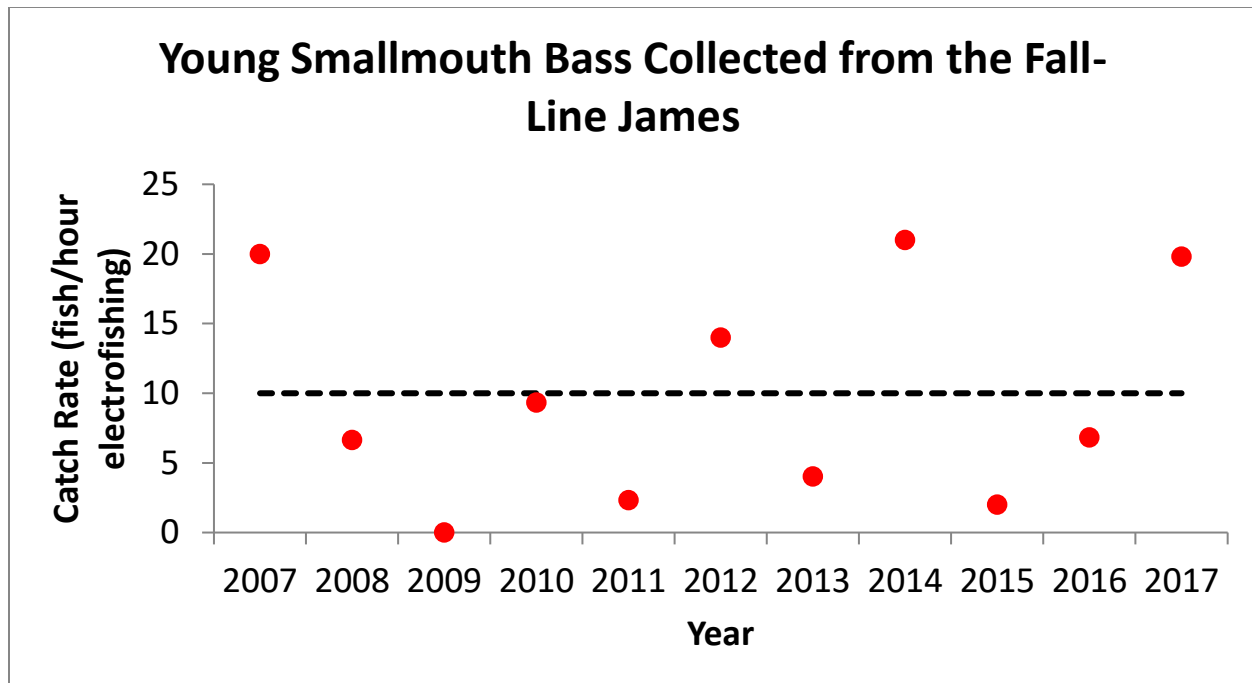


Figure 12. Annual catch of smallmouth bass from 2007-2017 in the Fall-Line, James River. The dashed line is the long-term average catch rate and the solid line represents the annual trend in smallmouth bass catch rates.

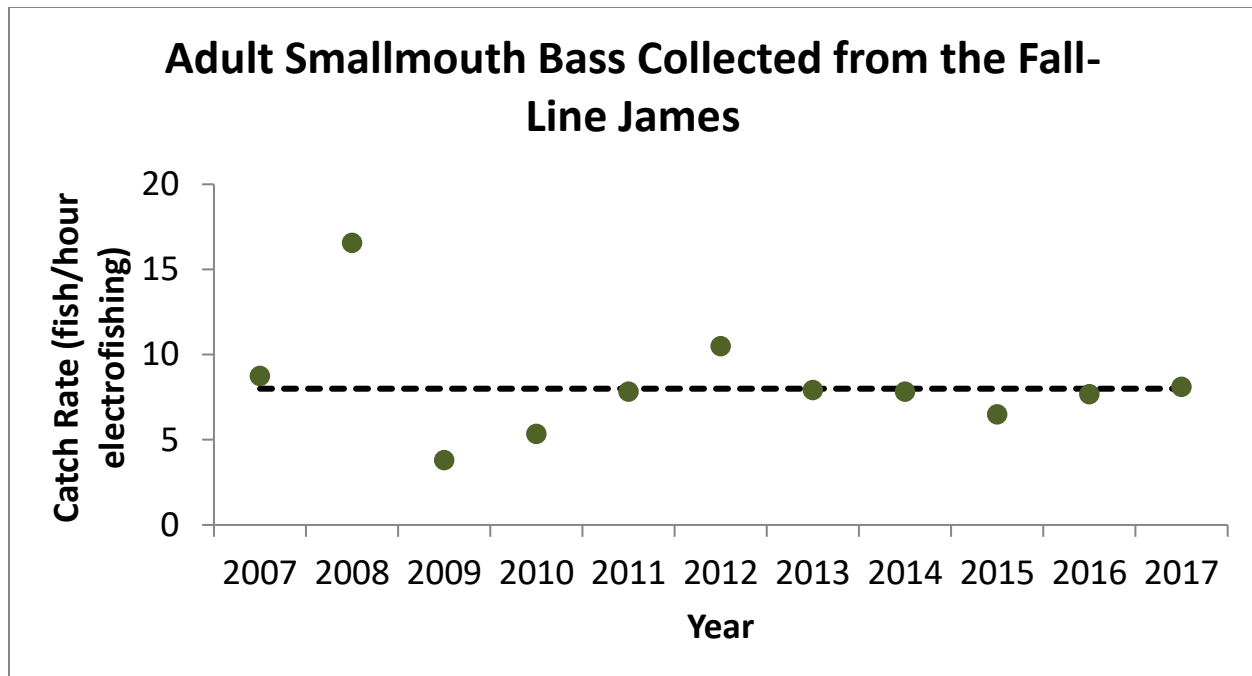
The increase in the smallmouth bass catch rate was mainly due to high catches of young-of-the-year bass. Smallmouth bass reproduction was excellent throughout the Fall-Line in 2017 due to optimal flow events during the spawn and egg hatching period (month of June). The following graph (Figure 13) shows the 2017 smallmouth bass recruitment compared to previous years.



*Figure 13. Annual trend in catch rates of young-of-the-year smallmouth bass collected from the Fall-Line, James River. The dashed black line is the long-term average catch rate for YOY from the Fall-Line, James River.*

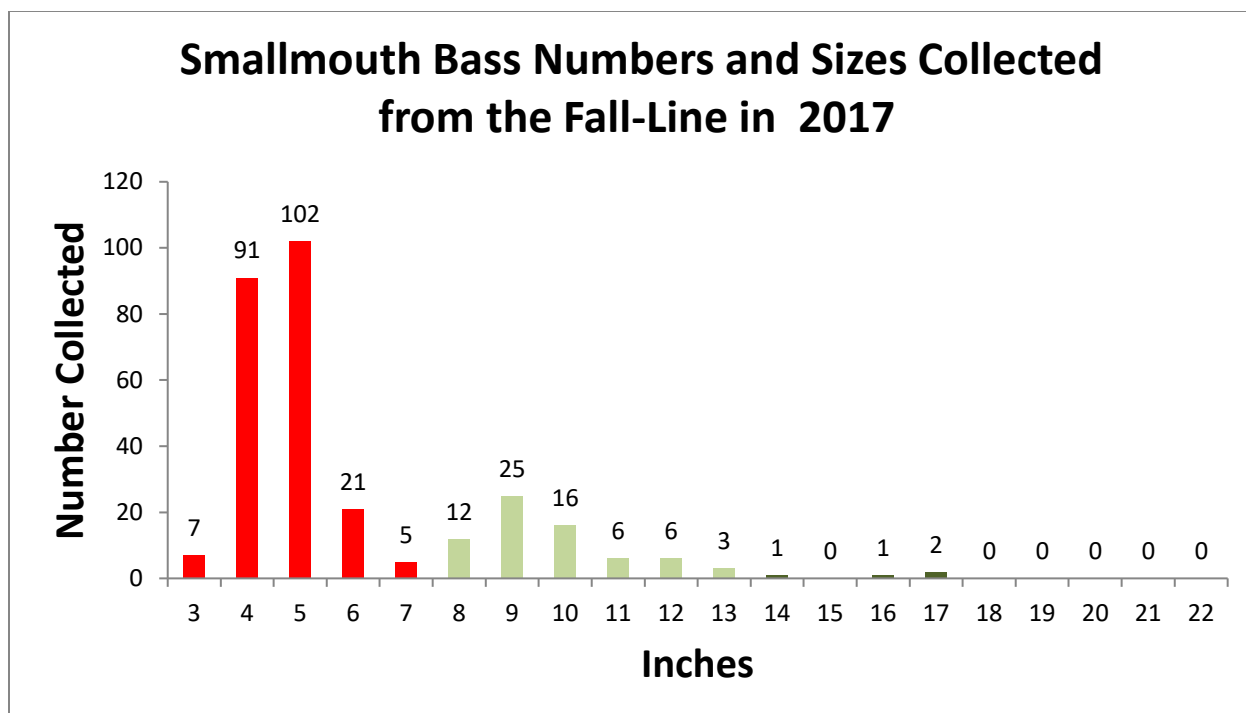
Due to excellent reproduction in 2014 the catch rate for adult smallmouth bass (individuals 8 inches and greater) rose slightly to meet the long-term average catch rate (Figure 14). The above average catch of young smallmouth bass will help the adult bass population in upcoming years. Still, more years of average spring flows that contribute to great bass reproduction like 2017 are needed to greatly increase the number of adult smallmouth bass.





*Figure 14. Annual catch rate of adult smallmouth bass in the Fall-Line, James River. The dashed line represents the long-term average catch rate for adult smallmouth bass in the Fall-Line, James River.*

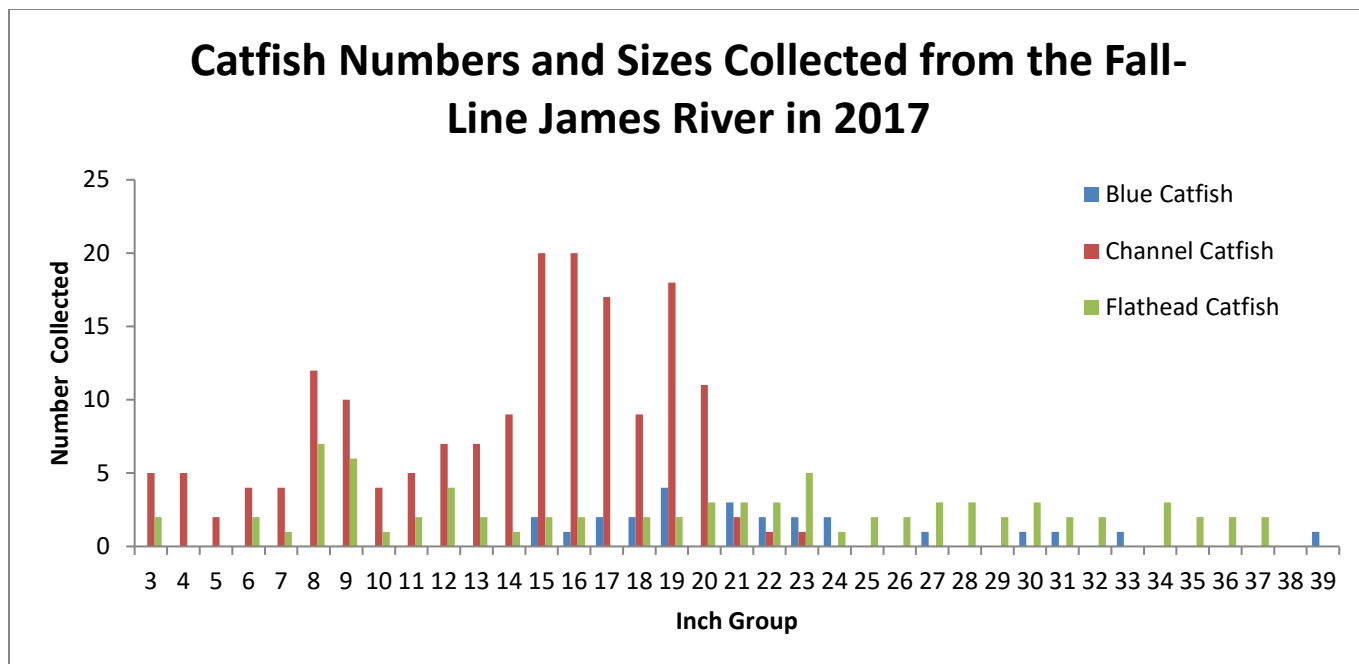
Anglers should not expect to catch high numbers of large bass throughout the Fall-Line section due to years of fair to poor recruitment. There are still some quality-sized and trophy-sized bass in this stretch of river, but anglers will have to work to catch them. In 2017, 298 smallmouth bass, ranging from 3 to 17 inches, were collected (Figure 15). Smallmouth bass spawned in 2014, measuring 8 to 11 inches were present in good numbers in the electrofishing catch and anglers should have good success catching these fish in the future. Additionally the 14-22 inch protective slot limit for smallmouth bass should help protect the remaining adult fish in the population, but the adult population needs more frequent successful spawns and juvenile survival to rebound to historic populations.



*Figure 15. Smallmouth bass collected from the Fall-Line in 2017. Juvenile smallmouth bass (less than 8 inches) are represented with red bars, while adult smallmouth bass are shown with green bars. Current regulations protect smallmouth bass between 14 and 22 inches (dark green bars).*

Smallmouth bass were present at all sampling sites, so anglers can expect to find them throughout the Fall-Line section. Annual surveys indicate that the best sections of the river for bass are consistently between Powhite Bridge and Belle Island. Anglers should concentrate on shallow to mid-depth riffles or areas near the bank with some type of structure. Previous diet analysis of smallmouth bass indicated that the majority of smallmouth bass feed on shiners and crayfish. Any lures that mimic these diet items should be a must for smallmouth bass anglers of the James River.

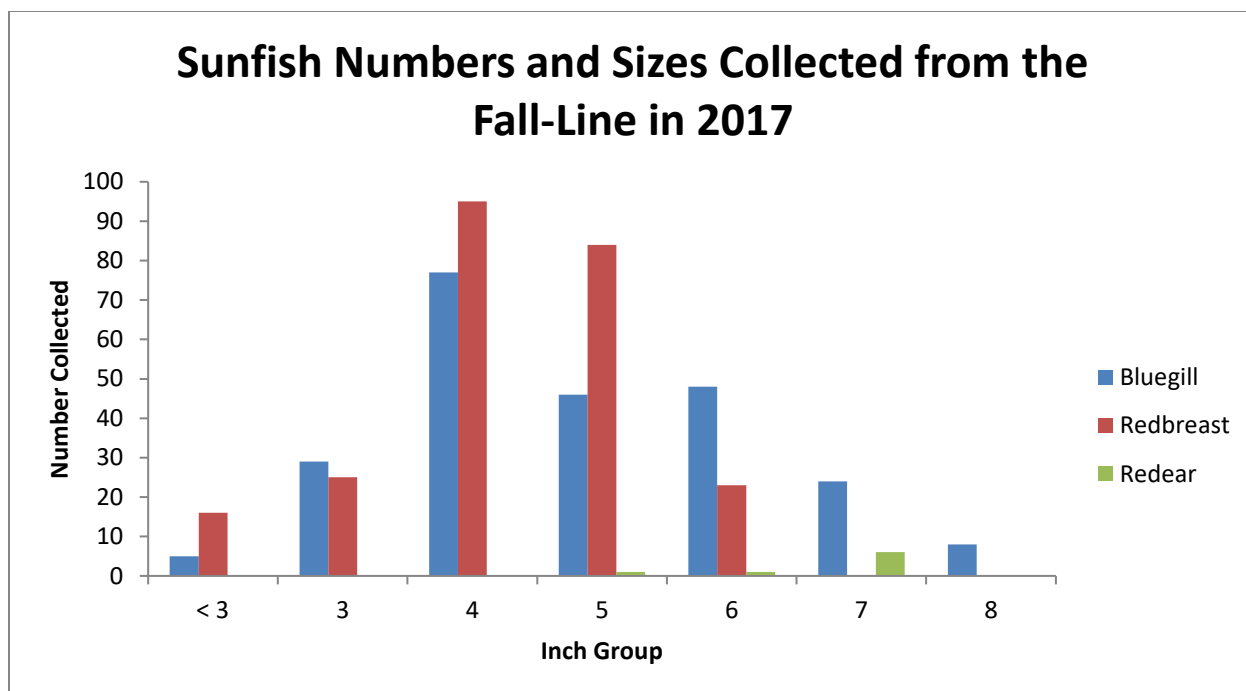
Catfish populations continue to be good within the Fall-Line. The blue and flathead catfish population have good numbers of big fish available to anglers (Figure 16). Channel and flathead catfish made up the majority of the catfish collected in 2017. There is an abundance of channel catfish (up to 23 inches), but the large catfish are the blues and flatheads. Numerous blue and flathead catfish at or above 30 inches were caught throughout the Fall-line.



*Figure 16. Number and sizes of catfish collected throughout the Fall-line, James River in 2017.*

Anglers looking to catch catfish should concentrate efforts on relatively deep water (greater than 6 feet deep) or waters adjacent to deep holes. The deep pockets of the Pony Pasture recreation area and the deep run just below the Wetlands recreational area (the river section that flows past Willow Oaks Country Club) are great places for catfish angler to wet a line. Anglers should try using live bait for flatheads and cut or stink-bait for blue and channel catfish.

Sunfish population numbers were much greater than previous years for the Fall-line section. Nearly 500 sunfish were collected ranging from 2 to 8 inches in length (Figure 17). The most abundant sunfish collected was redbreast sunfish followed by bluegill. Sunfish were collected at all locations throughout the Fall-Line section, and anglers targeting these species should concentrate their efforts around bank structure or slack water adjacent to rocky shoals and outcrops. Small twister tailed grubs, live crickets, and worms are outstanding baits for any of the sunfish species.



*Figure 17. Number and sizes of sunfish species collected in the Fall-Line, James River 2017.*

The Fall-Line section of the James can provide a rewarding trip for any angler but caution is warranted when fishing this stretch of river. The Fall-Line section is prone to flash flooding when there have been heavy rains in the headwaters of the James River. Furthermore, boaters need to be conscious of the technical rapids within the Fall-Line section. Before journeying out, anglers should be aware of the current river conditions and boaters need to become familiar with the more technical rapids. To get up-to-date information on river flows and maps of the Fall-Line section, contact the James River Parks Systems at (804)646-8911 or visit their website at <http://www.jamesriverpark.org>.

For more information on the James River through Richmond, please contact:

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804-305-8940

*Table 1. Regulation (creel and length limit) table for fish species that commonly occur in the non-tidal James River.*

<b>Fish Species</b>	<b>Creel Limit</b>	<b>Length Limit</b>	<b>Likely Occurrence Locations</b>
<b>Bass (largemouth, smallmouth, and spotted)</b>	5 per day in the aggregate (combined)	No bass 14 to 22 inches, only 1 per day longer than 22 inches	Non-tidal riverwide (upper, middle, and Fall-Line)
<b>Muskellunge</b>	2 per day in the aggregate (combined)	No muskellunge less than 30 inches	Upper and Middle, Occasionally Fall-Line
<b>Striped bass</b>	Creel and length limits shall be as set by the Virginia Marine Resources Commission for recreational fishing in tidal waters		Fall-Line
<b>Walleye</b>	5 per day in the aggregate (combined)	No walleye or saugeye less than 18 inches	Middle and Fall-Line
<b>Bluegill (bream) and other sunfish excluding crappie rock bass (redeye)</b>	50 per day in the aggregate (combined)	No statewide length limits	Non-tidal riverwide (upper, middle, and Fall-Line)
<b>Crappie (black or white)</b>	25 per day in the aggregate (combined)	No statewide length limits	Non-tidal riverwide (upper, middle, and Fall-Line)
<b>Rock Bass (redeye)</b>	25 per day	No statewide length limits	Non-tidal riverwide (upper, middle, and Fall-Line)
<b>Catfish (blue, channel, and flathead)</b>	20 per day	No length limits	Non-tidal riverwide (upper, middle, and Fall-Line), except blue catfish mainly middle and Fall-Line
<b>American Shad and Hickory Shad</b>	Creel and length limits shall be as set by the Virginia Marine Resources Commission for recreational fishing in tidal waters		Fall-Line